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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/972,076

Applicant(s)

JOHNSON ET AL.

Examiner

JAMES RUTTEN

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 84-106 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 84-106 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to Applicant's submission filed 12/1/09, responding to the 8/10/09 Office action which detailed the rejection of claims 84-104. Claims 84-104 have been amended and new claims 105-106 have been added. Claims 84-106 remain pending in the application and have been fully considered by the examiner.

Response to Arguments/Amendments

2. The amendments have obviated the objection to the specification, which is likewise withdrawn.
3. Applicant's arguments filed 12/1/09 have been fully considered but they are not persuasive.
4. Applicant's amendments fail to address all of the issues with respect to the rejection of claims 84-103 under 35 U.S.C. § 112, second paragraph. Therefore, the rejection is maintained.
5. On pages 9-10 filed 12/1/09, Applicant suggests that the specification provides "both explicit and inherent support" for the limitations in claims 84-104. However, Applicant's statements fail to illustrate where the specification provides support for the claimed limitations identified in the prior rejections under 35 U.S.C. § 112, first paragraph with respect to claims 84 and 104. Without a clear identification of where the specification provides a written description supporting the limitations, Applicant's argument is not persuasive, and the rejection is maintained.

6. On pages 13-14, Applicants argue that prior art of record Courts fails to disclose the features of amended claims 84 and 105, and new claim 106. This argument is not persuasive in view of the rejection below.
7. Further arguments are based upon previous arguments which have been addressed above.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 84-104 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
10. Claim 84 contains the following limitation: "delivering, by the remote server, the output to the user at the client server." As support for this limitation, Applicants have cited Fig. 1 and the "corresponding specification passages," presumably those on pages 17-20 which specifically mention Fig. 1 and provide an overview of the decisioning service.

The description on pages 17-20 provides the following. A client 102 uses remote system 101 to develop and refine rules which are passed to code generator 104. Code generator 104 provides software to decision server 109 for executing strategy. Code generator 104 also generates a web page 107 which is loaded onto web server 111. An additional client system 110

sends data to decision server 109 via web server 111. The decision server 109 processes the data according to strategy, and returns an output to the web server 111 which further delivers the output to client system 110.

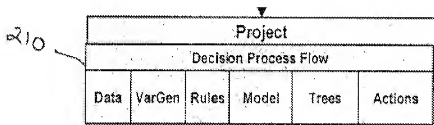
According to Fig. 1 and the description on pages 17-20, the "remote server" of claim 84 appears to correspond to code generator 104. Also, the "client server" of claim 84 appears to correspond to web server 111, and the "decision service" of claim 84 corresponds to decision server 109. There does not appear to be a description of the code generator 104 returning the output of the decision server 109 to the web server 111. No further description was found in the specification to support the claimed limitation.

Claims 85-103 are rejected as being dependent upon a rejected base claim.

11. Claim 104 contains the following limitations:

rendering, by a web server at a client server remote and separate from the web server, a web page including a first decision tree, the first decision tree comprising a first plurality of linked values to help identify a strategy corresponding to the first decision tree...
...modifying at least one of the first plurality of linked values in the first decision tree;
...
generating, by the remote decision server, a second decision tree based on the second plurality of linked values, the second decision tree comprising a second plurality of linked values to help identify the strategy corresponding to the first decision tree;
passing, by the remote decision server to the web server, the second decision tree; and
rendering, by the remote web server at the client server, a second web page including the second decision tree.

On page 11 filed 7/22/09, Applicants cite Fig. 2 ref. 210 in support of the new claim limitations. Review of Fig. 2 ref. 210 reveals the following:



While Fig. 2 ref. 210 shows a diagram which includes a "Trees" box, and it is further connected to several other boxes, there is simply no interpretation to support the cited limitations associated with a first and second decision tree. The specification provides discussion of decision trees on page 6 lines 8 and 10, and page 44 lines 19-23. Further review of the specification does not reveal any such rendering of web pages including decision trees, decision trees comprising linked values, "second decision tree," nor any generating, passing, or rendering of the second decision tree as is currently claimed. No further mention of decision trees was found in the specification, and the cited passages do not discuss decision trees in connection with the system of Figs. 1 or 2, nor any "second decision tree" or any operations related to one.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 84-103 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

14. Claim 84 recites the limitation "the web page modifying the output" in lines 13-14.

There is insufficient antecedent basis for this limitation in the claim. For the purpose of further examination, this limitation will be interpreted simply as "the web page."

15. Claim 84 recites the limitation "the user at the client server" in line 19. There is insufficient antecedent basis for this limitation in the claim. For the purpose of further examination, this limitation will be interpreted simply as "the client server."
16. Claims 85-103 are rejected as being dependent upon a rejected base claim.
17. Claim 105 recites the limitation "the user modified first plurality of linked values..." in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. For the purpose of further examination, this claim will be interpreted as being dependent upon claim 104.
18. Claim 105 is rejected because of the following informalities: lines 2-3 recite, "and wherein the web server and wherein the user modified first linked values...." The phrase "wherein the web server" is grammatically incorrect and renders the claim indefinite. For the purpose of further examination, the claim will be interpreted without the phrase.
19. Claim 106 recites the limitation "the results" in line 17. There is insufficient antecedent basis for this limitation in the claim. For the purpose of further examination, this limitation will be interpreted simply as "results."

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 84 and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6085220 to Courts et al. ("Courts") in view of U.S. Patent 6,041,362 to Mears et al. ("Mears").

As per claim 84, Courts et al. teach a *computer-implemented method* (See column 6 lines 10-50, e.g. "computer system"), for an all-purpose decision service/server/engine returning a real-time decision in ASP mode to an end user/client (e.g., col.3:24-27 & 34-35, col.7:38-46, col.9:30-35),

Courts further discloses:

receiving, ...data characterizing at least one rule for making decisions based on an input data; e.g., see business logic & business object 22 FIG.1 & associated text at least at column 3 lines 61-64:

Business layer 16 provides the business logic for the web system. Business layer 16 includes the business rules of the system which are carefully isolated from the presentation layer. The business rules can be implemented as COM business objects 22 within business layer 16.

Also column 4 lines 3-5, e.g. "business rule development."

generating, at a client server by the remote server ... at least a portion of a web page for receiving the input data, the portion of the web page corresponding to the at least one rule; e.g., see Abstract, see interaction layer 12 & HTTP FIG.1 & associated text, col.9:30-32; col.4:13-16. Also see column 3 lines 34-37:

Presentation Layer 14 can server to **generate web pages** for interaction with the user. In one implementation, presentation layer 14 includes hypertext markup language (HTML) pages augmented by a special set of tags. [emphasis added]

initiating, ...a decision service for producing an output by applying the at least one rule to the input data, the output corresponding to at least one recommendation, reason code, decision or a score; e.g., col.1:56-58, col.3:47-53:

Further, using a server side tag set and standard HTML, developers can create a large proportion (e.g., 90%) of all pages without custom code. At the same time, such pages can have the power to access information in legacy systems through integration layer 18,

utilize business rules in business layer 16 to make complicated decisions, and display customized content. [emphasis added]

Also see *html generation* FIG.1 & associated text. Note that generation of a service must occur in order to a decision to occur. That is, without a decision service, a decision would not be made.

receiving, ...the input data from a user via the web page ...; transmitting ... the input data in a first format; e.g., see Abstract, see interaction layer 12 & HTTP FIG.1 & associated text, col.4:13-16, and also col.9:30-32:

The request is commonly an HTTP request generated by remote user software such as a web browser.

invoking, ...the decision service on the decision server to produce an output by applying the at least one rule to the input data; and e.g., col.1:56-58-

A business layer is coupled to the presentation layer and provides **business logic for use by the presentation layer in generating the responsive web pages.** [emphasis added]

Note that the business logic must be *invoked* by the presentation layer in order to generate the responsive web page. Also col.3:51-52,61-64, also see *html generation* FIG.1 & associated text.

...the invoking comprising sending data to the decision server in a second format different from the first format See column 2 lines 55-57, e.g. "DCOM."

delivering, ... the output to the user. e.g., see Abstract, col.1:52-54, also see column 9:53-54: "When the web page is built, it is sent to the requesting user."

Limitations related to the *remote server*, and the *client server* have not been addressed in the above citations. Courts does not expressly disclose a strict arrangement

of computing systems, but rather focuses on required functionality. Nonetheless, Courts does broadly address arrangements of computer systems. See column 8 lines 18-41:

Referring to FIG. 3B, the **global session server can also be distributed across multiple physical computer systems**. As with FIG. 3A, a web system 210 includes multiple render engines 212. Render engines 212 interface to session managers 214. Each session manager 214 includes a broker 216 and a session cache 218. Each session cache 218 can interface with multiple global session servers 220 which is maintained in memory for quick access. **Render engines 212 can be distributed across multiple physical computer systems, and one or more render engine 212 can exist on any of the physical computer systems at a particular point in time.** When a user engages in a session with the web system, **requests from the user will be directed to render engines 212. In servicing a user request, render engines 212 can get current state information for that session through the respective session manager 214 and session cache 218 and from one of the global session servers 220.** Brokers 216 are used to locate the global session server 220 that stores the master copy of session data for the particular user session. Session cache 218 can then interface with the correct global session server 220 to obtain the session data. Render engines 202 then operate to process requests using the session information and return web content that reflects the state of the user session.

It is clear from Courts that many physical arrangements are possible, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a remote server and a client server as claimed in order to accommodate any particular requirements as suggested by Courts.

Courts does not expressly disclose: *the remote server being different and remote from the client server ... a decision server remote from both the remote server and the client server ... the client server to the decision server*. However, Mears teaches enterprise environments containing numerous networked/remote servers, including remote servers (e.g. see Fig. 1 element 30, "Remote Application library") and web servers (e.g. see Fig. 1 element 32, "HTTP server") in communication with each other and with a client (e.g. see Fig. 1 element 12 "Client"). Mears teaches that each server has a specialized function that work cooperatively. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Courts' system in

Mears' enterprise environment, as a person with ordinary skill has good reason to pursue the known options within his or her technical grasp. In turn, since the network topology of the claim has the properties predicted by the prior art, it would have been obvious to make such a network.

In regard to claim 85, the above rejection of claim 84 is incorporated. Courts further discloses: *wherein the at least one rule comprises at least one model, expression or a strategy.* e.g., see column 3 lines 64-65 which discloses business rules as expressions in COM business objects.

In regard to claim 87, the above rejection of claim 84 is incorporated. Courts further discloses: *wherein the at least one rule corresponds to a project, the project corresponds to a plurality of rules.* e.g., see project database 148 FIG.2B & associated text.

22. Claim 86 is rejected under 35 U.S.C. 103(a) as being unpatentable over Courts and Mears as applied to claim 84 above, and further in view of U.S. Patent 6,466,971 to Humpleman et al. ("Humpleman").

In regard to claim 86, the above rejection of claim 84 is incorporated. Courts does not expressly disclose: *generating xml schema corresponding to the at least one rule; generating an xml parser for extracting the input data conforming to the xml*

schema; and, invoking the xml parser to extract the input data conforming to the xml schema from the web page. However, Humpleman et al. discloses sending XML input data (e.g., see commands/XML FIG.14 & associated text, see XML-RPC Action FIG.19) from an end user/client system (e.g., see A FIG. 14 & associated text, see HN Device A: Controller Module FIG.19 & associated text) to a decision server (e.g., see S FIG.14 & associated text, see HN Device B: Controller Module FIG.19 & associated text) via a web server (e.g., see server 14 FIG.14 & associated text, see HN Device Web Server 86 FIG.19 & associated text). Humpleman et al. further discloses generating an XML schema for providing to the client system for collecting said input data and providing to Web server for use in error handling, or data validation (e.g., see CALL.DTD & INTERFACE.DTD & Web Server Layer FIG.18 & associated text, see Device A XML Interface 72 FIG.19 & associated text) and generating an XML parser (e.g., see XML Layer IN 70 & XML Layer OUT 68 FIG.18 & associated text, see XML parser 74 FIG.19 & associated text) for reading data conforming to said XML schema. Note that XML parser 74 must first be generated before being used. It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made to modify Courts et al.'s teaching to include the teaching as set forth by Humpleman et al. to produce the expected result with reasonable success. And the motivation for doing so would have been that the formatting of data into syntactically correct XML document(s) depends upon adhering to a predefined definition language describing the structure and set of constraints (i.e., XML schema) on which an XML documents shall be constructed from said data. Furthermore, XML parsers enable the processing and extracting of data

in textual representation within XML tags and transforming them into specific-typed objects/data structure (e.g., C, C++, or Java objects) which can be retrieved for use by servers and software applications. XML parsers check XML documents being parsed for conformance to XML rules. Most recent XML parsers, at the time the invention was made, are implemented with integrated support for XML schemas to further enable data validation.

23. Claims 88 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courts and Mears as applied to claim 84 above, and further in view of U.S. Patent 6018732 to Bertrand et al. ("Bertrand").

In regard to claim 88, the above rejection of claim 84 is incorporated. Courts further discloses: *wherein the at least one rule is validated*. See column 4 lines 8-10, i.e. "unit tested." Courts does not expressly disclose: *by a plurality of simulated transactions*. However, Bertrand et al. disclose a method and apparatus for returning real-time decisions/scores/calculated results (e.g., see Abstract, see FIG.2 & associated text), wherein rules are tested in runtime mode by a test service comprising a wrapper (e.g., see presentation 210, activity 220 FIG.2 & associated text, see col.21:55-62, FIG.8 & associated text). Bertrand further discloses simulation models for validating simulated transactions (e.g., see simulation engine 270, simulation models 260 FIG.2 & associated text, in particular, see column 11 lines 10-15, e.g. "simulation inputs"). It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was

made to incorporate the teaching of Bertrand et al. into that of Courts to obtain runtime test service comprising a wrapper for the control panel and for an Excel testing program. And the motivation for doing so would have been that the usage of Excel spreadsheets in the test service/program enables business logic/rules/functions to be collected, and simulated for testing purpose. Also, simulation allows design components as suggested by Bertrand (see column 11 line 9).

In regard to claim 89, the above rejection of claim 88 is incorporated. Bertrand further discloses: *generating a test report corresponding to the plurality of simulated transactions*. See column 11 lines 13-15, i.e. “notifies the system of the status.” It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made to use Court’s unit test with Bertrand’s test reports in order to obtain appropriate feedback as suggested by Bertrand (see column 11 line 15).

24. Claims 90-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courts and Mears as applied to claim 84 above, and further in view of U.S. 6,687,873 to Ballantyne et al. (“Ballantyne”).

In regard to claim 90, the above rejection of claim 84 is incorporated. Courts does not expressly disclose: *wherein the at least one rule is received from a rule designing software, the rule designing software having a graphical user interface adapted for graphical illustration of the at least one rule*. However, Ballantyne teaches

the use of software for designing rules using a graphical user interface. See at least Fig. 1 element 30 and associated text in column 6 lines 63-65, e.g. "modeling/mapping graphical user interface 30." It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made to incorporate *Ballantyne's* rule designing software with *Courts'* rules in order to reduce the time and expense of system modification as suggested by *Ballantyne* (see column 4 lines 50-54).

In regard to claim 91, the above rejection of claim 91 is incorporated. *Courts* does not expressly disclose: *wherein the graphical illustration of the at least one rule is provided in a form of a tree or a graph.* However, *Ballantyne* discloses this in Fig. 6 element 56. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use *Courts'* rules in order to reduce the time and expense of system modification as suggested by *Ballantyne* (see column 4 lines 50-54).

25. Claims 92, 93, 96, and 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Courts* and *Mears* as applied to claim 84 above, and further in view of U.S. Patent 5,999,911 to *Berg et al.* ("Berg").

In regard to claim 92, the above rejection of claim 84 is incorporated. *Courts* does not expressly disclose: *wherein the at least one rule corresponds to a project comprising expression sequences, segmentation trees and workflow lists arranged into a user-selected order;* However, *Berg* teaches interactive creation of workflow using

expression sequences and segmentation trees. See at least column 4 lines 14-17, i.e.

“interactively create a workflow definition. Berg further teaches:

the expression sequences assigning values to one or more fields, See Figs. 5 and 6, also see associated text in at least column 9 lines 18-20: "When the designer clicks on a graphic representing a step in the flow builder, the flow builder displays a "BASIC ATTRIBUTES" dialog box as shown in FIG. 5." The field values are saved as expression sequences in text based flow definition language as described in column 9 lines 63-66.

the workflow lists corresponding to one or more workflow steps processed during a run-time execution, See at least column 16 lines 29-34, e.g. "When a user elects to open the "flowname.flow" workflow file, the workflow manager displays the flow setting steps to the states mandated by their dependencies. After opening the workflow file, the user(s) can begin to perform work with the workflow."

the segmentation trees arranging workflow steps into one or more nodes configured in tree branches. See Fig. 4; also see the associated text in at least column 9 lines 8-11, e.g. "To create a step, the designer can select one of the step icons, which include a task step 104, an activity step 106, a decision step 108, and a subflow step 110." Designers create workflow by using the "segmentation trees" shown in Fig. 4.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Berg's teaching of workflow with Courts' decision service in

order to utilize improved methods for managing complex design processes as suggested by Berg (see at least column 2 lines 24-26).

In regard to claim 93, the above rejection of claim 92 is incorporated. Courts does not expressly disclose: *wherein the user-selected order is sequential or hierarchical*. However, Berg further teaches a hierarchical order. See column 4 line 25, e.g. “dependency relationships.” It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Berg’s teaching of hierarchical ordering with Courts’ decision service in order to utilize improved methods for managing complex design processes as suggested by Berg (see at least column 2 lines 24-26).

In regard to claim 96, the above rejection of claim 92 is incorporated. Courts further discloses use of a model. See at least column 4 lines 61-63, i.e. “profile.” Courts does not expressly disclose the remaining limitations. However, Berg further teaches: *wherein at least one of the expression sequences, segmentation trees and workflow lists reference at least one model*. See Berg column 4 line 25, i.e. “template.” It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Berg’s model referencing with Courts’ model in order to utilize improved methods for managing complex design processes as suggested by Berg (see at least column 2 lines 24-26).

In regard to claim 103, the above rejection of claim 92 is incorporated. Courts does not expressly disclose: *wherein the projects are configured using an inventory of project items, the inventory of project items comprising one or more expression sequences, segmentation trees and workflow lists.* See at least column 7 line 2, i.e. "workflow management database." It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Berg's inventory with Courts' model in order to manage workflow as suggested by Berg.

26. Claim 94 is rejected under 35 U.S.C. 103(a) as being unpatentable over Courts, Mears, and Berg as applied to claim 92 above, and further in view of U.S. Patent 4,931,928 to Greenfeld ("Greenfeld").

In regard to claim 94, the above rejection of claim 92 is incorporated. Courts and Berg does not expressly disclose: *wherein the expression sequences are configured by using a table with at least three columns, the first column displaying an identifier of a data field, the second column displaying a data type of the data field, the third column displaying at least one of the field, value, or expression that is assigned to the data field.* However, Greenfeld teaches use of a symbol table providing a dictionary of symbols defining type and name-spaces (i.e. "field") for the symbol. See column 5 lines 5-8. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Berg's expression sequence with Greenfeld's symbol table in order to provide a dictionary of symbols available in a program, thereby providing reference for variables.

27. Claim 95 is rejected under 35 U.S.C. 103(a) as being unpatentable over Courts, Mears, and Berg as applied to claim 92 above, and further in view of U.S. Patent 5,475,588 to Schabes et al. ("Schabes").

In regard to claim 95, the above rejection of claim 92 is incorporated. Courts and Berg does not expressly disclose: *wherein the nodes arranged in tree branches are executed top-down, from left to right*. However, Schabes teaches traversing trees in a top-down, left-right manner. See column 23 lines 50-52. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Berg's nodes with Schabes' top-down/left-right traversal in order to provide an efficient traversal as suggested by Schabes (see column 23 lines 34-44).

28. Claims 97-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courts, Mears, and Berg as applied to claim 96 above, and further in view of Bertrand.

In regard to claim 97, the above rejection of claim 96 is incorporated. Courts and Berg does not expressly disclose: *wherein the at least one model comprises one or more characteristics and one or more attributes corresponding to the one or more characteristics*. However, Bertrand teaches the use of characteristics and attributes. See at least column 21 lines 56-58, i.e. "property" and "particular value," respectively. It would have been obvious to one of ordinary skill in the art at the time the invention was

made to use Courts' model with Bertrand's "characteristics and attributes" in order to represent objects in a model that can be used in a simulation as suggested by Bertrand (see column 21 lines 15-27).

In regard to claim 98, the above rejection of claim 97 is incorporated. Courts and Berg does not expressly disclose: *wherein the at least one model is configured to assess a data record based on at least one characteristic, the at least one model is further configured to generate a score based on the at least one attribute corresponding to the at least one characteristic.* However, at column 154 lines 8-22, Bertrand teaches assessing a data record (e.g. "expert metrics") based on characteristics (e.g. "% down") and generating scored based on attributes (e.g. "appropriate conclusion.") It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Courts' model with Bertrand's teachings of data records and scores in order to provide appropriate conclusions regarding complex decisions as suggested by Bertrand.

In regard to claim 99, the above rejection of claim 97 is incorporated. Courts and Berg do not expressly disclose: *wherein at least one characteristic corresponds to a predictive variable.* However, Bertrand teaches predictive variables at least at column 154 lines 10-13, e.g. "% down." Each of these variables predict whether a home purchase would be a good buy. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Courts' model with Bertrand's predictive variables in

order to provide appropriate conclusions regarding complex decisions as suggested by Bertrand.

29. Claim 100 is rejected under 35 U.S.C. 103(a) as being unpatentable over Courts, Mears, Berg, and Bertrand as applied to claim 99 above, and further in view of U.S. Patent 4,772,882 to Mical ("Mical").

In regard to claim 100, the above rejection of claim 99 is incorporated. Courts, Berg, and Bertrand do not expressly disclose: *wherein the predictive variable is selected automatically*. However, Mical teaches automatic selection of variables. See column 9 lines 20-25, i.e. "automatically selected." It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Bertrand's predictive variables with Mical's automatic selection in order to select items simply and expediently as suggested by Mical (see column 1 lines 41-44).

30. Claims 101-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courts, Mears, and Berg as applied to claim 96 above, and further in view of "An additive reliability model for the analysis of modular software failure data," by Xie et al (hereinafter "Xie")

In regard to claim 101 the above rejection of claim 96 is incorporated. Courts and Berg do not expressly disclose: *wherein the at least one model is a discrete additive model*. However, Xie teaches the use of an additive model. See Section 2 on page 189,

i.e. "additive model." It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Xie's additive model with Courts' model in order to utilize available knowledge as suggested by Xie (see top of left column, page 190).

In regard to claim 102, the above rejection of claim 96 is incorporated. Courts and Berg do not expressly disclose: *wherein the at least one model produces a score as a result of an execution.* However, Xie teaches production of a score as a result of a calculation. See bottom of left column on page 189, i.e. "expected cumulative number." It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Courts' model with Xie's "score" in order to assess a system as suggested by Xie (see bottom right column on page 188).

31. Claim 104 is rejected under 35 U.S.C. 103(a) as being unpatentable over Courts in view of Mears and Applicant's Admitted Prior Art appearing on pages 1-7 of the originally filed specification (hereinafter "AAPA").

In regard to claim 104, Courts discloses:

*A computer-implemented method comprising:
rendering, ..., a web page including a first < web input>, the first < web input>
comprising a first plurality of linked values to help identify a strategy corresponding to
the first <web input>, the web page including graphical user interface elements
corresponding to the first plurality of linked values; see column 3 lines 34-37:*

Presentation Layer 14 can server to **generate web pages** for **interaction with the user**. In one implementation, presentation layer 14 includes **hypertext markup language (HTML) pages** augmented by a special set of tags... At the same time, such pages can have the power to access information in legacy systems through integration layer 18, **utilize business rules in business layer 16 to make complicated decisions**, and display customized content. [emphasis added]

receiving user-generated input via one or more of the graphical user interface elements on the web page modifying at least one of the first plurality of linked values in the first <web input>; passing, ...the user modified first plurality of linked values; passing, ... the user modified first linked values; See column 7 lines 38-46, e.g. "web interactions."

calculating, ...a second plurality of linked values based on the user modified first linked values and a pre-defined decision model; generating, ... a second <web input> based on the second plurality of linked values, the second <web input> comprising a second plurality of linked values to help identify the strategy corresponding to the first <web input>; passing, ... the second decision tree; and rendering, ...a second web page including the second <web input>. See column 7 lines 40-44, e.g. "multiple web interactions."

Limitations related to the *remote server*, and the *client server* have not been addressed in the above citations. Courts does not expressly disclose a strict arrangement of computing systems, but rather focuses on required functionality. Nonetheless, Courts does broadly address arrangements of computer systems. See column 8 lines 18-41:

Referring to FIG. 3B, the **global session server can also be distributed across multiple physical computer systems**. As with FIG. 3A, a web system 210 includes multiple render engines 212. Render engines 212 interface to session managers 214. Each session manager 214 includes a broker 216 and a session cache 218. Each session cache 218 can interface with multiple global session servers 220 which is maintained in memory for quick access. **Render engines 212 can be distributed across multiple physical computer systems, and one or more render engine 212 can exist on any of the physical computer systems at a particular point in time**. When a user engages in a

session with the web system, **requests from the user will be directed to render engines 212. In servicing a user request, render engines 212 can get current state information for that session through the respective session manager 214 and session cache 218 and from one of the global session servers 220.** Brokers 216 are used to locate the global session server 220 that stores the master copy of session data for the particular user session. Session cache 218 can then interface with the correct global session server 220 to obtain the session data. Render engines 202 then operate to process requests using the session information and return web content that reflects the state of the user session.

It is clear from Courts that many physical arrangements are possible, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a remote server and a client server as claimed in order to accommodate any particular requirements as suggested by Courts. Furthermore, Courts does not expressly disclose: *the remote decision server being separate and remote to both the web server and the client server*; However, Mears teaches enterprise environments containing numerous networked/remote servers, including remote servers (e.g. see Fig. 1 element 30, "Remote Application library") and web servers (e.g. see Fig. 1 element 32, "HTTP server") in communication with each other and with a client (e.g. see Fig. 1 element 12 "Client"). Mears teaches that each server has a specialized function that work cooperatively. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Courts' system in Mears' enterprise environment, as a person with ordinary skill has good reason to pursue the known options within his or her technical grasp. In turn, since the network topology of the claim has the properties predicted by the prior art, it would have been obvious to make such a network.

Courts does not expressly disclose: *decision tree*. However, AAPA teaches that decision trees are used by Attar Software in a KBS development package (see AAPA page 6 lines 6-14). It would have been obvious to one of ordinary skill in the art at the

time the invention was made to use AAPA's decision trees with Courts' web page in order to express logic in a more efficient way as suggested by AAPA.

32. Claim 105 is rejected under 35 U.S.C. 103(a) as being unpatentable over Courts, Mears, and AAPA as applied in the above rejection of claim 104, and further in view of "An ASP You Can Grasp: The ABCs of Active Server Pages" by Cluts, and U.S. Patent 6,226,675 to Meltzer et al. ("Meltzer").

In regard to claim 105, the above rejection of claim 104 is incorporated. Courts, Mears and AAPA does not expressly disclose: *wherein the user modified first plurality of linked values passed by the client server to the web server comprises an XML document, and wherein the user modified first linked values passed by the web server to the remote decision server comprises an ASP file, the ASP file being in a different format from the XML document.* However, Meltzer teaches the use of XML for transmitting information. See at least column 2 lines 34-38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Courts' input using Meltzer's XML in order to exchange information and services using self-defining, machine-readable documents, such as XML (Extensible Markup Language) based documents, that can be easily understood amongst the partners as suggested by Meltzer. Furthermore, Cluts teaches using ASP files for providing information (see Cluts page 1 paragraph 3). It would have been obvious to one of ordinary skill in the art at the time the invention was

made to provide Courts' data using ASP in order to combine multiple elements into one file providing automatic compilation as suggested by Cluts (see page 1 paragraph 3).

33. Claim 106 is rejected under 35 U.S.C. 103(a) as being unpatentable over Courts, Mears, Cluts, Meltzer, U.S. Patent 7,577,834 to Traversat et al. ("Traversat"), and U.S. Patent 5,836,771 to Ho et al. ("Ho").

In regard to claim 106, Courts discloses:

A decisioning service computing system (see at least column 6 lines 20-30)

comprising:

a client system; a web server coupled to the client system; See column 7 lines 8-

12, e.g. "browser" and "web server."

a decision server coupled to the web server; See Fig. 1 element 16, e.g.

"Business Layer" and

a code generator computing system See Fig. 1 element 14, e.g. "HTML

generation".

It should be noted that Courts does not expressly disclose a strict arrangement of computing systems, but rather focuses on required functionality. Nonetheless, Courts does broadly address arrangements of computer systems as suggested above. Also see column 5 lines See column 8 lines 18-41:

Referring to FIG. 3B, the **global session server can also be distributed across multiple physical computer systems**. As with FIG. 3A, a web system 210 includes multiple render engines 212. Render engines 212 interface to session managers 214. Each session manager 214 includes a broker 216 and a session cache 218. Each session cache 218 can interface with multiple global session

servers 220 which is maintained in memory for quick access. **Render engines 212 can be distributed across multiple physical computer systems, and one or more render engine 212 can exist on any of the physical computer systems at a particular point in time.** When a user engages in a session with the web system, **requests from the user will be directed to render engines 212. In servicing a user request, render engines 212 can get current state information for that session through the respective session manager 214 and session cache 218 and from one of the global session servers 220.**

Brokers 216 are used to locate the global session server 220 that stores the master copy of session data for the particular user session. Session cache 218 can then interface with the correct global session server 220 to obtain the session data. Render engines 202 then operate to process requests using the session information and return web content that reflects the state of the user session.

It is clear from Courts that many physical arrangements are possible, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a variety of systems and servers as claimed in order to accommodate any particular requirements as suggested by Courts. Furthermore, Mears teaches enterprise environments containing numerous networked/remote servers, including remote servers (e.g. see Fig. 1 element 30, "Remote Application library") and web servers (e.g. see Fig. 1 element 32, "HTTP server") in communication with each other and with a client (e.g. see Fig. 1 element 12 "Client"). Mears teaches that each server has a specialized function that work cooperatively. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Courts' system in Mears' enterprise environment, as a person with ordinary skill has good reason to pursue the known options within his or her technical grasp. In turn, since the network topology of the claim has the properties predicted by the prior art, it would have been obvious to make such a network.

...

(i) strategy service software on the decision server for executing strategy;

e.g. see col.1:56-58, col.3:47-53:

Further, using a server side tag set and standard HTML, developers can create a large proportion (e.g., 90%) of all pages without custom code. At the same time, such pages can have the power to access information in legacy systems through integration layer 18, **utilize business rules in business layer 16 to make complicated decisions, and display customized content.** [emphasis added]

Courts does not expressly disclose: *(ii) an XML schema, (iii) an XML*

parser / builder for reading data conforming to the XML schema, However,

Traversat teaches XML schema and XML parsers. See column 21 lines 32-35.

The XML schema may be parsed by the XML parser that may convert the XML schema into an internal form suitable for quick access during a message verification process.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Courts' input with Traversat's XML in order to provide verification as suggested by Traversat.

(iv) a web page that is loaded onto the web server for facilitating

communication see column 3 lines 34-37:

Presentation Layer 14 can server to **generate web pages** for interaction with the user. In one implementation, presentation layer 14 includes hypertext markup language (HTML) pages augmented by a special set of tags. [emphasis added]

Courts does not expressly disclose: *in ASP mode between the client system and*

the decision server; However, Cluts teaches using ASP files for providing

information (see Cluts page 1 paragraph 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Courts' data using ASP in order to combine multiple elements into one file providing automatic compilation as suggested by Cluts (see page 1 paragraph 3).

Also, while Courts discloses a code generator for generating a web page, Courts does not expressly disclose a code generator for *generating* the remaining software. However, Courts and Traversat disclose the need for such software, and Courts even discloses that such a code generator can be utilized. Thus, it would have been obvious to a person of ordinary skill in the art to try Courts' code generation with the remaining software elements, as a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. In turn, because code generation as claimed has the properties predicted by the prior art, it would have been obvious to make such a code generator.

Courts does not expressly disclose: *wherein the generated XML schema is provided to the client system for collecting input data and ensuring the input data from the client system conforms to the XML schema, a copy of the XML schema residing on the web server to validate input data intended for the decision server;* However, Traversat teaches providing XML schemas to clients as well as on a service to verify XML using a so-called "gate." See column 16 lines 21-25. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Courts' input data with Traversat's XML schema in order to ensure that the data is in the allowed format as suggested by Traversat (see column 7 lines 35-39).

Courts does not expressly disclose: *wherein the client system sends data to the decision server via the web server in the form of an XML document and the web server sends a corresponding ASP file to the decision server;* However, Traversat teaches use of XML.

See column 24 lines 50-52. Furthermore, Meltzer teaches the use of XML for transmitting information. See at least column 2 lines 34-38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Courts' input using Meltzer's XML in order to exchange information and services using self-defining, machine-readable documents, such as XML (Extensible Markup Language) based documents, that can be easily understood amongst the partners as suggested by Meltzer. Furthermore, Cluts teaches using ASP files for providing information (see Cluts page 1 paragraph 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Courts' data using ASP in order to combine multiple elements into one file providing automatic compilation as suggested by Cluts (see page 1 paragraph 3). Furthermore, Ho teaches the general concept of a web server which acts as middleware between a client and a back-end server. See column 9 lines 23-30, also Fig. 2:

In one embodiment, the grammatical analyzer 102, the grammatical rules 104 and the grammatical table 114 are in a **client computer**. The programming-steps generator 108, the semantic rules 110, the semantic tables 118 and the table-structure dictionary are in a **middleware apparatus**, which can be a Web server. The programming-steps executor 112 with the topic-related tables are in a **back-end server**, which can be a database server.

Thus, it would have been obvious to a person of ordinary skill in the art to try such middleware, as a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. In turn, because the client/web server/decision server as claimed has the properties predicted by the prior art, it would have been obvious to make such a middleware.

Courts does not expressly disclose: *wherein the web server calls the parser / builder to convert XML format data into a format that can be processed by the decision server and returns the results via XML to the client system.* However, Traversat further teaches the use of parsing XML and conversion into an internal format. See column 24 lines 11-13:

The conductor may parse this XML document into an internal form and enforce message ordering (and/or other rules) according to the enclosed ordering information.

Furthermore, Traversat teaches returning results to the client. See column 24 lines 28-31, e.g. "display results." Also, Meltzer teaches the use of XML for transmitting information as addressed above.

Conclusion

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES RUTTEN whose telephone number is (571)272-3703. The examiner can normally be reached on M-F 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571)272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. Derek Rutten/
Primary Examiner, Art Unit 2192